

REMARKS

The Amendments and Remarks presented herein are provided in response to the Office Action mailed February 9, 2004.

In this Response, Applicants have amended the Specification to delete blank spaces and to replace browser-executable code with reference source information derived from the website addresses. Applicants also have canceled claims 8-11, 13-17 and 19-24, have amended claims 1, 5-7, 12, and 25-26 and have added new claims 28-30. Support for the amendments to claims 1 and 12 can be found in the Specification, for example, in paragraphs [0084]-[0085] and [0072]. Support for the amendment to claims 5-7 and 25-26 can be found in the Specification, for example, in paragraph [00183]. No new matter has been added. Claims 1-7, 12, 18, and 25-30 currently are pending.

The Examiner's remarks in the Office Action are addressed below in the order set forth therein.

OBJECTION TO THE SPECIFICATION

The Examiner objected to the specification due to the presence of informalities, including blank spaces and browser-executable code. The amendments to the Specification herein delete blank spaces and replace browser executable code with resource information converted from the website address. Applicants therefore request that this objection be withdrawn.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 101

Claims 5-7 and 25-26 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 5-7 and 25-26 have been amended to recite "recombinant host cell." In view of these amendments, Applicants request that this rejection be withdrawn.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 112

Claim 1 and claims 2-7, 12, 18, 25 and 26 being dependent thereon were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 1 recites the phrase "simple sugar," for which the Examiner was unable to find a clear definition in the Specification. Applicants respectfully traverse this rejection and refer the Examiner to paragraph [0042] where the term "simple sugar" has been provided with some non-limiting examples which guide one with ordinary skill in the art to understand the types of molecules encompassed by this term. For this reason, Applicants ask that this rejection be withdrawn.

Claim 1 recites the phrase "target molecule," for which the Examiner was unable to find a clear definition in the Specification. Applicants respectfully traverse this rejection and refer the Examiner to

paragraph [0056] where the term “target molecule” has been provided with some non-limiting examples which guide one with ordinary skill in the art to understand the types of molecules encompassed by this term. For this reason, Applicants ask that this rejection be withdrawn.

Claim 1 recites the phrase “a membrane,” for which the Examiner was unable to find a clear definition in the Specification. Applicants respectfully traverse this rejection and refer the Examiner to paragraph [0036] where the term “a membrane” has been provided with some non-limiting examples which guide one with ordinary skill in the art to understand the types of membranes encompassed by this term. For this reason, Applicants ask that this rejection be withdrawn.

Claim 1 and claims 2-7, 12, 18, 25 and 26 being dependent thereon were rejected under 35 U.S.C. §112, first paragraph, on the grounds that the specification, while being enabling for nucleic acids of defined sequence and specific glycosyltransferase activity, does not provide enablement for a polynucleotide which is at least 90% identical with SEQ ID NO:1 or 3 and encodes a polypeptide with an activity recited in the claim for someone skilled in the relevant art to make the invention commensurate with the scope of the claims.

Applicants respectfully traverse this rejection. Claim 1 a) has been amended to increase the percent identity of nucleic acid molecule encompassed by the claim to 95% identity. In addition, Applicants herein direct the Examiner to the Specification to, for example paragraphs [0079]-[0083] where Applicants explain to one skilled in the art how to compare two sequences to determine the percent identity; to paragraphs [0076] and [0077] where Applicants guide one skilled in the art in what type of amino acid substitutions typically can be made without substantially altering activity; and to paragraphs [0037]- [0052] for structural highlights of a 33945 polypeptide and information on how these features can contribute to the function of a 33945 polypeptide and thus help one to design a modified nucleotide sequence, with up to a 5% variation of SEQ ID NO:1 or SEQ ID NO:3, which likely encodes a polypeptide with the desired activity. As explained above, examples have been provided in paragraphs [0042], [0056] and [0036] to guide one skilled in the art in using the encoded polypeptide without undue experimentation as the claimed activities are not “vague”. Applicants maintain that methods to modify the sequences of nucleic acid molecules and methods to determine whether a polypeptide encoded by a nucleotide sequence of claim 1 a) has a claimed activity are known to those skilled in the art and can be supplemented by insight provided in the Specification at, for example, paragraphs [00202] or [00207]-[00212]. Therefore, Applicants submit that it would not require undue experimentation for one skilled in the art to make or use the nucleic acid molecule of claim 1 a). In view of this amendment and these remarks, Applicants respectfully ask that this rejection be withdrawn.

Claim 1 and claims 2-7, 12, 18, 25 and 26 being dependent thereon were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner describes the claims as being directed to a genus of DNA molecules encoding polypeptide having "vague functions," but contends that the Specification does not contain the structure of all DNA sequences with these functions.

Applicants respectfully traverse this rejection. First, Applicants point out in the earlier portion of the response that the functions recited in the claims are not "vague" and have examples which demonstrate that the Applicants contemplated polypeptides having specific functions. Second, while the claims encompass some variation for nucleic acid sequences, Applicants note in paragraph [0037] that, polypeptides substantially farther in identity than those encoded by the claimed nucleic acid molecules are known to have at least one of the activities recited by the claims. Therefore, the various nucleic acid molecules represented in the claimed genus as having some close relation to SEQ ID NO:1 or 3 also will have at least one claimed activity. Furthermore, claim 1 has been amended to decrease the size of the nucleic acid genus encompassed by the claims. In addition, in paragraphs [0037]- [0052] Applicants provide structural highlights of a 33945 polypeptide and information on how these features can contribute to the function of a 33945 polypeptide encoded by the claimed nucleic acid molecule, thus demonstrating possession of attributes and features of the genus. In view of this amendment and these remarks, Applicants maintain that one skilled in the art would recognize that Applicants were in possession of the claimed genus and respectfully ask that this rejection be withdrawn.

Claim 1 and claims 2-7, 12, 18, 25 and 26 being dependent thereon were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner describes claims 1 and 12 as being directed to a genus of DNA molecules with either SEQ ID NO:1 or 3 or naturally occurring allelic variant polynucleotide sequence capable of hybridizing to SEQ ID NO:1 or 3 under stringent conditions. The Examiner contends that many structurally unrelated DNA molecules are encompassed in the scope of these claims.

Applicants respectfully traverse this rejection. Applicants have amended claim 1 d) (claims 2-7, 18, 25, 26 and new claims 28-30 dependent thereon) and claim 12 c) to recite specific hybridization and wash conditions. One skilled in the art would recognize that these hybridization and wash conditions define a specific genus of structures closely related to SEQ ID NOs:1 and 3. That genus of structures in conjunction with the recited function of the polypeptide encoded by the nucleic acid molecule of claim 1d) and 12 c) demonstrate to those skilled in the art that at the time the application was filed, Applicants

had possession of the claimed invention. In view of this amendment and these remarks, Applicants respectfully ask that this rejection be withdrawn.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 102

Claim 1-7, 12, 18 and 25-27 were rejected under 35 U.S.C. § 102(e) as being anticipated by Sanjanwala et al. (WO 02/46426 A2) or by Clausen et al. (US Pub 20020186850 A1 (actually 20030186850)). Applicants respectfully traverse this rejection.

The Examiner provided evidence that SEQ ID NO:17 (Incyte ID 2860635CB1) from WO 02/46426 (Sanjanwala et al.) aligns with SEQ ID NOs:1 and 3 from the present application. The Sanjanwala et al. application claims priority to five US provisional applications, filed on December 8, 2000, December 15, 2000, December 21, 2000, January 19, 2001 and February 2, 2001. Applicants submit herewith (as Exhibits I and II) copies of the December 8, 2000 and December 15, 2000 provisional applications (US Application Nos. 60/254,308 and 60/256,189, respectively). A comparison of the two applications reveals that the sequence for Incyte ID 2860635CB1, named SEQ ID NO:17 in WO 02/46426, was not disclosed until the latter application, i.e. not until December 15, 2000. Therefore, Applicants submit that the US priority date for the sequence with Incyte ID 2860635CB1 is December 15, 2000.

Filed herewith are three copies of a Declaration under 37 C.F.R. §1.131 (each signed by one inventor of the present application), together with Exhibits A1-A3 and B1-B5. The Declaration presents evidence that the conception of the sequence of the human 33945 molecules of the invention and the identification of the 33945 polypeptide as a glycosyltransferase occurred prior to December 15, 2000 and the reduction to practice comprising obtaining the final sequence known as SEQ ID NO:1 in the above-identified application was performed with due diligence until December 18, 2000, the date of the actual reduction to practice. Therefore, this Declaration, in accordance with MPEP §715.07, establishes that Sanjanwala et al. did not anticipate the claimed invention under 35 U.S.C. §102 (e) by a combination of evidence of prior conception and due diligence in reduction to practice relative to the December 15, 2000 provisional application (No. 60/256,189, Exhibit II). In view of these remarks regarding the prior invention of the claimed subject matter in the present application, Applicants ask that this rejection be withdrawn.

The Examiner also provided evidence that SEQ ID NO:58 from US Application Publication 20030186850 A1 (Clausen et al., US Application No. 10/292,896, filed November 12, 2002) aligns with SEQ ID NOs:1 and 3 from the present application. The Clausen application claims priority to two US provisional applications, filed on May 11, 2000 and November 8, 2002 and to a PCT application filed on May 10, 2001. Only the May 11, 2000 application was filed before the February 15, 2001 priority date of Applicants' present application. Applicants submit herewith (as Exhibit III) a copy of the May 11, 2000

provisional application (US Application No. 60/203,331). A review of that application reveals that this application does not contain the nucleic acid sequence provided in the published utility application (US application publication No. 20030186850 A1). Therefore, Applicants submit that Clausen et al. did not disclose a nucleotide sequence corresponding to Applicants' SEQ ID NO:1 or 3 prior to the February 15, 2001 priority date of the present application. Thus, Clausen et al. did not anticipate the claimed invention and this rejection under 102(e) should be withdrawn.

CONCLUSION

The foregoing amendments and remarks are being made to place the Application in condition for allowance. Applicants respectfully request the timely allowance of the pending claims because, in view of these amendments and remarks, Applicants respectfully submit that the objections to the specification and rejections of the claims under 35 U.S.C. § 112 and 35 U.S.C. § 102 are overcome. Applicants believe that this application is now in condition for allowance. Early notice to this effect is solicited.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned. If the Examiner disapproves of Applicants' amendments and remarks in this response, Applicants request a prompt mailing of a notice to that effect.

This paper is being filed timely as a request for a three month extension of time is filed concurrently herewith. No additional extensions of time are required. In the event any additional extensions of time are necessary, the undersigned hereby authorizes the requisite fees to be charged to Deposit Account No. 501668.

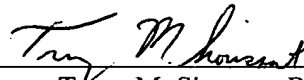
Entry of the remarks made herein is respectfully requested.

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Respectfully submitted,

MILLENNIUM PHARMACEUTICALS, INC.

By



Tracy M. Sioussat, Ph.D.
Registration No. 50,609
40 Landsdowne Street
Cambridge, MA 02139
Telephone - 617-374-7679
Facsimile - 617-551-8820